

Amendments to the Claims:

Please cancel Claims 1 and 9. Please amend Claims 4-8, 10, 12-17.

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Canceled).
2. (Canceled).
3. (Canceled).
4. (Currently Amended). The ball valve of claim 5 ~~1~~, wherein the valve seat defines a central longitudinal axis substantially co-axial with a central longitudinal axis of the fluid inlet and fluid outlet, and further wherein the connecting portion has greater flexibility along the longitudinal axis than does the cantilevered portion.
5. (Currently amended). ~~The ball valve of claim 1, further comprising~~ A ball valve, comprising:
 - a valve body defining an inner cavity and having a fluid inlet and fluid outlet;
 - a control ball element rotatably mounted in the inner cavity, and having a segment defining a ball face;
 - a flexible annular valve seat positioned in the valve body, the seat comprising a base portion, a cantilevered portion having a sealing face disposed toward the ball face, and a connecting portion between the base portion and the cantilevered portion that is lesser in width than are the base portion and the cantilevered portion; and
 - a retaining ring removably disposed in the fluid inlet of the valve body, said retaining ring contacting the base portion of the valve seat and securing the valve seat in place, said retaining

ring defining an inner diameter that is smaller than an inner diameter defined by the valve seat;
and

a rigid support ring disposed between a downstream side of the base portion of the valve seat and the valve body.

6. (Currently Amended). The ball valve of claim 5 ~~4~~, wherein the cantilevered portion has a substantially constant width moving away from the sealing face.

7. (Currently Amended). ~~The ball valve of claim 1,~~ A ball valve comprising:
a valve body defining an inner cavity and having a fluid inlet and fluid outlet;
a control ball element rotatably mounted in the inner cavity, and having a segment
defining a ball face;

a flexible annular valve seat positioned in the valve body, the seat comprising a base
portion, a cantilevered portion having a sealing face disposed toward the ball face, and a
connecting portion between the base portion and the cantilevered portion that is lesser in width
than are the base portion and the cantilevered portion, wherein the cantilevered portion has a
slightly increasing width moving away from the sealing face; and

a retaining ring removably disposed in the fluid inlet of the valve body, said retaining ring
contacting the base portion of the valve seat and securing the valve seat in place, said retaining
ring defining an inner diameter that is smaller than an inner diameter defined by the valve seat.

8. (Currently amended). ~~The ball valve of claim 7,~~ A ball valve comprising:
a valve body defining an inner cavity and having a fluid inlet and fluid outlet;
a control ball element rotatably mounted in the inner cavity, and having a segment
defining a ball face;

a flexible annular valve seat positioned in the valve body, the seat comprising a base
portion, a cantilevered portion having a sealing face disposed toward the ball face, and a
connecting portion between the base portion and the cantilevered portion that is lesser in width

than are the base portion and the cantilevered portion, wherein the sealing face is formed at an angle approximately the same as the angle of the ball face at the point where the sealing face contacts the ball face; and

a retaining ring removably disposed in the fluid inlet of the valve body, said retaining ring contacting the base portion of the valve seat and securing the valve seat in place, said retaining ring defining an inner diameter that is smaller than an inner diameter defined by the valve seat.

9. (Canceled).

10. (Currently amended). The seat of claim 14 9, wherein the connecting portion has a concave front wall and a substantially flat back wall.

11. (Original) The seat of claim 10, wherein the concave front wall comprises a smooth arc.

12. (Currently amended) The seat of claim 14 9, wherein the cantilevered portion has a substantially constant width moving away from the sealing face.

13. (Currently Amended) ~~The seat of claim 9;~~ A flexible annular seat for a ball valve, said seat comprising:

a base portion adapted to contact a retaining ring removably disposed in a fluid inlet of said valve, wherein an inner diameter defined by the valve seat is larger than an inner diameter defined by the retaining ring;

a cantilevered portion with a sealing face configured to be disposed against a control ball element of said valve, wherein the cantilevered portion has a slightly increasing width moving away from the sealing face; and

a connecting portion between the base portion and the cantilevered portion that is thinner than the base portion and the cantilevered portion.

14. (Currently amended) ~~The seat of claim 13,~~ A flexible annular seat for a ball valve, said seat comprising:

a base portion adapted to contact a retaining ring removably disposed in a fluid inlet of said valve, wherein an inner diameter defined by the valve seat is larger than an inner diameter defined by the retaining ring;

a cantilevered portion with a sealing face configured to be disposed against a control ball element of said valve, wherein the sealing face is formed at an angle that approximates the angle of a ball face at a point where the sealing face contacts the ball face; and

a connecting portion between the base portion and the cantilevered portion that is thinner than the base portion and the cantilevered portion.

15. (Currently Amended) ~~The seat of claim 9,~~ A flexible annular seat for a ball valve, said seat comprising:

a base portion adapted to contact a retaining ring removably disposed in a fluid inlet of said valve, wherein an inner diameter defined by the valve seat is larger than an inner diameter defined by the retaining ring, and wherein the base portion defines a substantially flat bottom edge adapted to contact the fluid inlet of the valve, a substantially flat front edge adapted to contact the retaining ring, and a substantially flat rear edge adapted to contact a support ring disposed downstream of the seat;

a cantilevered portion with a sealing face configured to be disposed against a control ball element of said valve; and

a connecting portion between the base portion and the cantilevered portion that is thinner than the base portion and the cantilevered portion.

16. (Currently amended). The seat of claim 13 9, wherein the cantilevered portion comprises a substantially flat top edge.

Applicant : Brian J. Caprera
Serial No. : 10/679,962
Filed : October 6, 2003
Page : 6 of 8

Attorney's Docket No.: 15826-192001 / MN-03-002

17. (Currently amended). The seat of claim 14 9, wherein the seat is formed from PTFE.